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ABSTRACT

In response to the magnitude of alcohol-related problems, the National Institute on Alcohol Abuse and Alcoholism (NIAAA) was established in 1971 with authority to conduct a comprehensive program of research and research training and to foster improved treatment and prevention programs for these problems. This publication gives a brief description of the severity of alcohol abuse and alcoholism in American society, and discusses the mission of the NIAAA and its organization, future directions, and priorities. Major problems associated with alcohol abuse and alcoholism are listed. A section on the NIAAA mission lists eight ways that the NIAAA is working to increase knowledge and promote effective strategies for dealing with health problems and issues associated with alcohol abuse and alcoholism. Other sections examine budgetary resources of the NIAAA and provide brief descriptions of the eight components of the NIAAA. A section on current activities and future directions of the NIAAA provides an overview of NIAAA research activities in the areas of: (1) genetics and molecular biology; (2) biochemistry and metabolism; (3) neurosciences; (4) incidence and prevalence; (5) treatment; (6) alcohol and pregnancy; (7) alcohol-related medical disorders; (8) safety and trauma; (9) behavioral and environmental antecedents; and (10) prevention. Activities of the NIAAA that deal with research training, research dissemination, prevention, and collaboration are also discussed. (NB)

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I. INTRODUCTION

In response to the magnitude of alcohol-related problems, the National Institute on Alcohol Abuse and Alcoholism (NIAAA) was established in 1971 with authority to conduct a comprehensive program of research and research training and to foster improved treatment and prevention programs for these problems. This publication gives a brief description of the severity of alcohol abuse and alcoholism in our society, and the mission of the Institute and its organization, future directions, and priorities.

II. MAGNITUDE OF ALCOHOL-RELATED PROBLEMS

The economic, social and human costs of alcohol abuse and alcoholism are devastating to our society. Up to 14 million Americans are problem drinkers (including those who suffer from alcoholism). Some 3 million adolescents have problems with the use of alcohol. Since the lives of family, friends, employers, coworkers, and innocent bystanders are also affected, tens of millions of Americans face some type of alcohol-related problem.

Studies indicate that two-thirds of the adult population consume alcoholic beverages, with the heaviest drinking one-third of the population accounting for over 95 percent of total alcohol consumption. Clearly, heavy drinkers are at much greater risk for adverse consequences, in terms of health, accidents, the law, and problems on the job and within the family.

One of the most tragic consequences of alcohol abuse, and one that is spread throughout the drinking population, is the consequence of drinking and driving. Over the past decade, more than 450,000 traffic accident fatalities have occurred, constituting the fifth leading cause of death in the United States and the leading cause of death in the 1 to 35 year-old age group. It is estimated that up to half of these fatal accidents were alcohol-related. Alcohol is especially involved in accidental death and injury among young people ages 16 to 24.

These are the major problems associated with alcohol abuse and alcoholism:

- Up to 14 million Americans are problem drinkers (including those who suffer from alcoholism).

- Based on findings by the Office of Technology Assessment of the U.S. Congress, alcohol abuse may be responsible for up to 15 percent of the Nation's total health care costs.

- Alcoholic cirrhosis of the liver was the 8th leading cause of death in 1983 accounting for 11.6 deaths per 100,000.

- Traffic accidents are the most frequent of violent death in the U.S.; up to half of the deaths resulting from traffic accidents are alcohol-related.

- In a 1982 Gallup poll, one-third of those interviewed reported that alcohol caused problems in their families.

- The children of alcoholics are at significantly increased risk for alcohol abuse and alcoholism and for alcohol-related problems, such as psychological and emotional problems, physical health problems, and school problems.

- Alcohol use has been found to be a contributing factor in violent crime, such as homicide and rape. Additionally, 40 percent of suicide attempts involve alcohol and some 16 to 40 percent of suicide completers were drinking at the time of the act.

- The leading cause of death for individuals between the ages of 1 and 44 is unintentional injury. In addition to the heavy involvement of alcohol in motor vehicle accidents, alcohol is estimated to be involved in as many as 69% of all reported drownings; 10-20% of general aviation, railway and marine accidental fatalities; 40% of fatalities caused by falls; 25% of fire deaths; and 10% of all occupational deaths and injuries.

- Alcohol consumed during pregnancy can harm the developing fetus. Effects can include increased spontaneous abortion, decreased birth weight, major and minor birth defects, and mental retardation.

The economic costs to society of alcohol problems are appallingly high and have a significant adverse affect on the Nation. Alcohol abuse cost the Nation an estimated $116.7 billion in 1983. Lost employment and reduced productivity account for 61% of the costs associated with alcoholism and alcohol abuse. Other costs identified are in the areas of the health care system, crime, motor vehicle crashes, and excess morbidity and mortality.

In summary, the national alcohol problem clearly is complex and multifaceted, encompassing alcoholism and medical complications that result from drinking, and including a wide range of other negative consequences for the Nation.

III. THE NIAAA MISSION

Since the creation of NIAAA, its mission has been to provide a Federal focus for the effort to increase knowledge and promote effective strategies to deal with health problems and issues associated with alcohol abuse and alcoholism. In carrying out these responsibilities, the Institute:

(1) conducts and supports research to identify new and improved prevention of alcohol-related problems, intervention, and treatment methods and techniques for application in the Nation's health care system;

(2) serves as a national resource for the collection, analysis, and dissemination of scientific findings and improved methods of prevention of alcohol-related problems and treatment services;

(3) supports training and development of scientists for participation in alcohol research programs and activities;

(4) conducts policy studies which have broad implications for alcohol problem prevention, treatment, and rehabilitation activities;

(5) conducts public education and prevention activities to inform the public of the risks and consequences associated with alcohol consumption and to help prevent these problems;

(6) conducts epidemiological studies as well as national and community surveys to assess the risks for and magnitude of alcohol-related problems among various population groups;

(7) collaborates with other research institutes and Federal programs relevant to alcohol abuse and alcoholism, and provides coordination of Federal alcohol abuse and alcoholism research activities; and

(8) maintains continuing relationships with institutions and professional associations and with international, national, State and local officials, and voluntary agencies and organizations engaged in alcohol-related work.

Great strides have been made over the past decade in building a base of scientific knowledge about alcoholism and alcohol abuse. These advances have begun to culminate in new knowledge as increased numbers of talented investigators have accepted the challenges of alcohol research and as improved scientific tools and methodologies have been applied to the problem. Research accomplishments include, for example, new knowledge concerning genetic differences in tolerance to alcohol, improved understanding of the action of alcohol on the cell, and better determination of the various derangements of immune functions found to be associated with alcohol liver disease

The potential for the practical application of these and many other findings to the prevention and treatment of alcohol problems is substantial. New knowledge about the genetics of alcoholism, for instance, permits more focused prevention efforts. Improved diagnostic criteria for patient classification should improve capability for matching patients alcohol problems is substantial. New knowledge about the genetics of alcoholism, for instance, permits more focused prevention efforts. Improved diagnostic criteria for patient classification should improve capability for matching patients to appropriate kinds of treatment and will further enhance treatment efficacy research. Knowledge about the risks of drinking during pregnancy has had an impact on the drinking habits of women and may well lead to a reduction of the prevalence of Fetal Alcohol Syndrome (FAS) and Fetal Alcohol Effects (FAE).

The Institute strongly encourages and supports close collaboration with the scientific community in developing and modifying its research agenda and planning process. As a part of this process, the Institute frequently brings together groups of experts to review NIAAA's research portfolio and recommend Institute priorities and directions. These panels of experts have included the 1983 Research Planning Panel, 1983 Prevention Planning Panel, the Intramural Research Division's Board of Scientific Counselors and on a continuing basis the National Advisory Council whose role it is to review the Institute's current programs and future directions. In addition, a new mechanism, the Alcohol Research Utilization System (ARUS), was established in 1985 to help develop national priorities for future research and research application.

IV. BUDGETARY RESOURCES

The total FY 1986 President's Budget request for NIAAA is $64.8 million. This is a 4 percent increase over the FY 1985 budget appropriation of $62.5 million. Since the major role of the Institute is research, over 81 percent of the FY 1986 President's Budget ($52.6 million) funds research activities. Research is comprised of extramural research grants to private research organizations and universities ($44.2 million) and intramural Federal research laboratories ($8.4 million) components. In addition, $1.5 million was requested for research training grants and fellowships in FY 1986. Finally, the FY 1986 President's Budget request for direct operations of the Institute was $10.7 million.

Direct operations include program management, research dissemination, (including the operation under contract of the National Clearinghouse for Alcohol Information (NCALI)), policy analysis and prevention activities.

NIAAA Budget

(Dollars in Thousands)

	1984 Actual		1985 Estimate		1986 Estimate	
	No. of Projects	*Actual ($)*	*No. of Projects*	*Amount ($)*	*No. of Projects*	*Amount ($)*
Extramural Research	248	34,900	296	40,640	306	44,264
Intramural Research	---	7,966	---	8,360	---	8,374
Total Research	248	42,866	296	49,000	306	52,638
Research Training	24	1,086	28	1,500	31	1,500
Direct Operations	---	11,445	---	11,961	---	10,706
Total, NIAAA	272	55,397	324	62,461	337	64,844

V. ORGANIZATION

The NIAAA consists of the Office of the Director, and the following components:

Office of Policy Analysis
Office of Scientific Affairs
Office of Planning and Resource Management
Division of Biometry and Epidemiology
Division of Extramural Research
Division of Intramural, Clinical and Biological Research
Division of Prevention and Research Dissemination

Below is a brief description of these components. The Institute's organizational chart is found on the last page of this document.

Office of the Director (OD)

The Office of the Director provides leadership, coordination, and direction in the development and implementation of Institute policies, goals and priorities. This office plans, directs and provides overall administration of the program and management activities of the Institute. The Office of the Director serves as the focal point for the Department's efforts on alcohol abuse and alcoholism. It conducts and coordinates interagency, intergovernmental, international and public affairs activities of the Institute as well as monitors the conduct of its equal employment opportunity and consumer affairs activities.

Office of Policy Analysis (OPA)

In conjunction with program offices of the Institute, (OPA) develops and recommends to the Director, NIAAA, program policies for potential application at the national, State, and local level. In addition, OPA monitors broad policy issues surrounding the field of alcohol abuse and alcoholism including the development and analysis of service financing programs designed to improve and increase the financing of alcoholism services. OPA also conducts legislative analyses and provides legislative-related services for the Institute.

Office of Scientific Affairs (OSA)

The Office of Scientific Affairs provides advice and guidance to the Director regarding the Institute's research programs and other scientific activities. In addition, it provides a continuing assessment of current Institute research activities in relation to broad research goals and objectives, and recommends changes to basic alcohol research policy where needed. The OSA also administers the peer and objective review of grant applications and contract proposals and coordinates and assures the development of, and adherence to, program policies and rules relating to Institute extramural activities.

Office of Planning and Resource Management (OPRM)

The Office of Planning and Resource Management conducts Institute planning activities and participates in the preparation of Institute-wide program plans. OPRM is responsible for developing annual planning issue papers which focus on major efforts of the Institute including research, research training, epidemiology, prevention and research dissemination, etc. These issue papers are used by the Department to make resource allocation decisions. In addition OPRM coordinates and conducts evaluation activities in the Institute. The OPRM also provides administrative management support to the Institute in such areas as financial management, grants and contracts management, and management support services. Finally, OPRM develops administrative management policies, procedures, and guidelines, and conducts management studies of Institute programs and operations.

Division of Biometry and Epidemiology (DBE)

The Division of Biometry and Epidemiology plans and conducts studies and surveys on the incidence and prevalence of alcohol abuse and alcoholism (both nationally and in specific population groups), conducts national surveillance activities to collect and analyze alcohol-related program data through various information systems, and develops and maintains information systems to collect and analyze alcohol-related data. The DBE also collaborates with other organizations engaged in alcohol data collection activities, such as State-based information systems, in order to exchange pertinent data and to utilize existing data systems where appropriate.

Division of Extramural Research (DER)

The Division of Extramural Research plans, develops, and supports programs of basic and applied research on the multiple determinants and processes of alcoholism and other alcohol-related problems and on the prevention of alcohol abuse and the diagnosis, treatment, and rehabilitation of persons who abuse alcohol. The DER develops and supports clinical research to assess the efficacy of therapeutic procedures for the treatment of alcoholism and alcohol-related disorders, administers the Institute's National Alcohol Research Centers program, and adminsters the Institute's research scientist development and research training programs.

Division of Intramural, Clinical and Biological Research (DICBR)

This Division plans, develops and conducts a program of basic and applied alcohol research, including preclinical and clinical investigations on the multiple determinants of alcoholism and other alcohol-related problems. Studies are in progress on the genetic determinants of alcoholism, on the neuronal and neuroendocrine bases of ethanol tolerance and dependence, on metabolic consequences of alcohol use and abuse and in the areas of prevention, diagnosis, treatment, and rehabilitation. Intramural research is conducted in the Institute's laboratories located in Rockville, Maryland, and in the clinical research program located on the campus of the National

Institutes of Health (NIH) in Bethesda, Maryland. The 10-bed inpatient facility and outpatient program provide opportunities for careful clinical observations that are the substance of theories regarding the etiology of alcohol related physical and behavioral pathologies. The Intramural program includes the Laboratory of Preclinical Studies, the Laboratory of Metabolism, the Laboratory of Clinical Studies, and the Laboratory for Studies of Neuroadaptive Processes. The NIAAA scientists collaborate closely with the National Institute of Mental Health, National Institute on Drug Abuse, and the other National Institutes of Health scientists to optimize the NIAAA Intramural Research program's activities.

Division of Prevention and Research Dissemination (DPRD)

The Division of Prevention and Research Dissemination plans, conducts and evaluates prevention and public education activities through mass media campaigns, the preparation and dissemination of publications and alcohol prevention materials, and a wide range of prevention programs in collaboration with the States and other key organizations in the alcohol-related field. The DPRD collects, abstracts, stores and disseminates program and scientific information on alcohol abuse and alcoholism through NCALI. The DPRD also operates the Institute's ARUS, designed to help assess research findings for dissemination and technology utilization purposes.

VI. CURRENT ACTIVITIES AND FUTURE DIRECTIONS OF THE INSTITUTE

In carrying out its mission, the Institute supports areas of research, research training, research dissemination, and prevention. This section summarizes some of these activities now being conducted by NIAAA and future research directions.

A. Research

The Institute conducts a program of biomedical and behavioral research aimed at building a solid base of knowledge about alcoholism, alcohol abuse, and the health consequences of alcohol consumption which can lead to better treatment and more effective prevention approaches. This long-range goal of understanding the causes and processes of a disease and of finding better ways to treat and prevent the disease is common to all health research. The alcohol research field is on the threshold of achieving exciting breakthroughs in knowledge and understanding about a disorder that continues to have widespread serious and adverse effects throughout society. Below is an overview of the direction of the Institute's research and other activities.

1. Genetics and Molecular Biology

Research is providing increasing evidence that heredity is a major contributing cause of alcoholism and alcohol abuse in a large proportion of cases, and perhaps in nearly all cases.

Scientific studies of the inheritance of alcoholism have great potential for practical application. For example, it becomes both feasible and appropriate to search for specific physiological and biochemical indicators of this genetic susceptibility, so physicians can have a rational and convincing basis for counseling abstinence or strict moderation by individuals whose laboratory tests show them to be at risk. An even more important benefit of studying the genetics of alcoholism is better understanding of the fundamental mechanisms involved in both the development of this complex disease and its clinical manifestations. Already, genetic studies have demonstrated heterogeneity in inherited alcoholism. At least two forms of inherited predisposition are known, and other forms will undoubtedly be discovered as research in this area continues. This process of refining disease classifications, discovering and analyzing new subcategories of what were originally thought to be singular illnesses, is one of the most important factors in the successes of modern medicine.

Research is needed to identify markers of genetic vulnerability to alcoholism; to apply state of the art technology and methodology, including nuclear magnetic resonance (NMR) technology, in biomedical research to study the anatomical, biochemical, and physiological basis of genetic variability in alcohol-related processes; to apply molecular biology and recombinant DNA methodology to basic issues of chronic alcohol abuse; to investigate biochemical, behavioral and genetic interactions between alcohol and other addictive drugs; and to formulate behavioral and psychosocial research that takes into account genetic variability in response to alcohol between individuals and examines its interactions with environmental factors.

2. Biochemistry and Metabolism

Among the most promising opportunities for research into the biology of alcoholism are those for investigating the metabolism of alcohol and the biochemistry of alcohol's actions on the cell.

Research has shown that alcohol metabolic rate varies among individuals as much as threefold, even after correction for body weight, diet, and other environmental factors. The uniquely complex systems of enzymes for alcohol metabolism in the human raise questions about what the endogenous substrates in the human are for these enzyme families, how ethanol alters the metabolism of these endogenous substrates, and how such alterations and the different ADH isoenzyme phenotypes relate to the development of alcoholism.

Further research is needed to isolate and characterize the many isoenzymes of alcohol metabolism and to learn how different isoenzyme patterns correlate with differing metabolic rates and with risk for abusive drinking.

Progress is being made in our understanding of the action of ethanol on the cell. We now know that ethanol alters the physical properties of cell membranes acutely through its permeation into the interstices of the membranes, and chronically, through modification of the composition of the membranes. Acutely, ethanol makes membranes more plastic or fluid and, chronically, the membrane composition changes to render it more rigid. Further research in this area can help to clarify the processes of intoxication and tolerance development.

3. Neurosciences

Alcohol affects every system of the body, but its greatest, most immediate, and most visible effects are on the central nervous system. Alcohol is a psychoactive substance which is used and abused specifically because of its psychoactive properties; that is, it crosses the blood brain barrier and specifically alters normal neuronal behavior. Current research into alcohol's actions within the central nervous system include studies of alcohol's action on neurotransmitter synthesis and degradation; neurotransmitter receptors; neuralmembrane structure and function; alcohol condensation products which may function as false transmitters and neuropeptides.

New imaging technology, and in particular, nuclear magnetic resonance (NMR) now affords an opportunity to apply a powerful approach to the study of alcohol's action on the metabolism and structure of the brain. Since many of the effects and pathologic consequences of acute and chronic alcohol ingestion can be traced to ethanol-induced metabolic anomalies and ethanol-induced changes in structure and function of neurons, NMR technology used in concert with sophisticated means of measuring cognitive and psychomotor performance could and should become a central tool in investigations of ethanol's actions on brain and behavior.

4. Incidence and Prevalence

Research is conducted to examine the incidence of alcohol problems and the patterns of their distribution throughout the population in order to find clues to their underlying causes and consequences. By analyzing the differences among subgroups of the population, in terms of drinking behavior and the incidence of various types of alcohol problems, we are identifying subgroups at higher risk for alcohol problems. This makes it possible to identify specific characteristics and environmental factors associated with the development of alcohol problems. Such knowledge ultimately may lead to the development of more effective treatment approaches and prevention strategies targeted to populations at high risk.

The Institute collaborates extensively with the National Center for Health Statistics (NCHS) and supports alcohol specific data collection as part of the Public Health Service's health statistics activity. The Institute collaborates with the NCHS to gather alcohol use data in their Health and Nutrition Examination Surveys and in the National Health Interview Survey. The Institute also cooperates with the National Institute on Drug Abuse (NIDA) in the analysis of alcohol and drug related data gained through the National household surveys and the High School Senior Survey. Among the many uses for such data are for monitoring progress on the 1990 Objectives for the Nation related to alcohol misuse.

5. Treatment

This category encompasses research related to the treatment of alcoholism as well as treatment for other alcohol-related disorders. Included is research to develop improved diagnostic criteria and improved diagnostic approaches; research in pharmacotherapy aimed at the development and evaluation of drugs for treatment purposes; research in psychological and behavioral intervention; research into the treatment needs of special populations such as women, teenagers, and ethnic populations; and studies aimed at improved methods for assessing treatment outcome, treatment efficacy and access to treatment.

There is increasing recognition that alcoholism and alcohol abuse encompass multiple patterns of dysfunctional alcohol use which result in multiple forms of disability. This is being reflected in the development of improved diagnostic definitions and classification.

Recent breakthroughs in understanding of the genetic basis of alcoholism have exciting implications for alcoholism treatment. The recognition that alcoholism is a pharmacogenetic disease in those individuals who have an inherited susceptibility paves the way for improved and targeted treatment approaches. An important task for treatment research is the development of definitions and diagnostic criteria that incorporate these recent findings about the biological basis of alcoholism.

The efficacy of various treatment modalities and settings, and the appropriate matching of patients and treatment modalities, remain important issues requiring definitive research. It has been shown that untreated alcoholics and their families are disproportionately high users of health care services and that their health care costs decline substantially over time after the alcoholic family member enters treatment. However, the relative efficacy of the various treatment modalities for differing types of alcoholic patients is not known. Research is needed to examine the efficacy of various treatment settings and therapeutic modalities for differing types of patients.

6. Alcohol and Pregnancy

Research has resulted in many advances over the past ten years in understanding the medical complications of chronic alcohol abuse. Among the most significant of these is the clear evidence that maternal drinking is a major contributor to abnormal fetal development.

Although no firm data are yet available on the prevalence of Fetal Alcohol Syndrome, current estimates are in the range of 1 to 3 per 1000 births. This syndrome is characterized by mental retardation, hyperactivity, growth deficits and facial and cranial abnormalities. Even moderate drinking may increase the risk for low birth weight, abnormal neurobehavioral development, and spontaneous abortion. Research will continue to seek answers to the many critical questions remaining about the risks of drinking during pregnancy and effective methods to reduce alcohol consumption among pregnant women.

Continued research is also needed into the interactions of alcohol consumption with other pregnancy risks, such as poor nutrition, other substance use, or medical illnesses which may increase susceptibility. Information about interacting risks would help in designing more focused and potentially more effective prevention strategies. A profile of patients at risk for the adverse effects of *in utero* alcohol exposure also would aid the practitioner in giving direct patient care.

7. Alcohol-Related Medical Disorders

Alcohol use is a factor in a wide range of serious and often fatal disorders including liver disease, heart disease, gastrointestinal disorders, brain damage, and several forms of cancer. Research in this broad area seeks to understand how alcohol use, sometimes interacting with other factors, results in the onset of disease. Such research may lead to more effective preventive strategies and to better treatment as well.

The liver is the largest, most metabolically active organ in the body, and is the organ that is most likely to be injured by alcohol. One of the most serious forms of alcohol-induced liver disease is cirrhosis, in which functioning liver cells are replaced by scar tissue. Research will seek to delineate the underlying mechanisms by which alcohol consumption leads to cirrhosis in order to permit the development of effective treatment and preventive measures.

Research will also continue to investigate the role of alcohol in chronic pancreatitis. Alcoholic persons account for more than 75 percent of patients with chronic pancreatitis. Progress has been made in the diagnosis of pancreatitis through ultrasound and computrized tomography, and chemical tests for the detection of pancreatic damage are under development. Unfortunately, the mechanism by which alcohol damages the pancreas still eludes researchers.

Research is needed to further elucidate the impact of alcohol consumption on the development of heart disease. There is evidence, for example, that persons with a long history of substantial alcohol intake often have abnormally functioning heart muscles and in some cases develop alcoholic cardiomyopathy. Increased knowledge concerning this condition has potential for saving many lives since abstinence from alcohol frequently results in improvement, particularly during the early stages of the disease.

Further research is also needed into alcohol-related nervous system disease, not only in the central nervous system, but in the peripheral nervous system as well. The latter, peripheral neuropathy, has not been examined in depth and important medical questions remain unanswered. Among these are the mechanism and extent of injury, natural course of the disorder and potential for reversibility. Such research may provide valuable information on the origins and clinical approaches for management of the more serious alcoholic brain diseases.

8. Safety and Trauma

This category reflects a new initiative to focus major research effort on an especially significant but insufficiently understood public health problem: alcohol-related performance impairment and traumatic injury. Because very little research has yet been conducted in this area, a great many questions remain unanswered. The Institute's planned approach is multidisciplinary, involving the neurologic and behavioral sciences as well as biomedical, clinical and epidemiologic studies.

Research on performance impairment will address the effect of alcohol on an individual's ability to perform important tasks, the nature of the impairment caused by alcohol and factors that influence this effect, and the detection and measurement of these impairments under varying conditions. Studies need to be conducted in a controlled laboratory environment, using sophisticated biobehavioral technology, to provide a base of knowledge which can be used in the development of effective intervention programs to reduce the number and impact of alcohol-related accidents.

The presence of alcohol at the time of traumatic injury presents some serious complications, not only in relation to the severity of the injury and the ability of the body to respond to the injury, but in the medical management of the intoxicated patient. Research is needed into the extent and nature of alcohol-related trauma; the medical complications caused by the presence of alcohol in injured tissue; the role of alcohol in determining the extent of tissue injury and the mechanisms by which alcohol may impede recovery; the interaction of alcohol with medications and with surgical and other medical procedures; the relationship between sociopsychological status and risk for alcohol-related trauma; and identification and assessment of effective techniques for preventing alcohol-related death and injury.

9. Behavioral and Environmental Antecedents

Exposure of individuals to alcohol and the cumulative impact of their experience with drinking are influenced by psychological, cultural, social and other environmental factors. One of the greatest challenges of alcohol research is to pinpoint those diverse factors that constitute major risks, to enable the development of effective prevention strategies and improved methods of intervention and treatment of afflicted individuals.

As with research into the biological determinants of alcoholism and alcohol abuse, research on sociocultural influences on drinking behavior has become more focused on the examination of group-specific differences, rather than on a search for commonalities. Such research is providing a basis for identifying the factors that promote drinking.

Research is also needed to gain a better understanding of how attitudes toward drinking are shaped especially among youth, and of the process of initiation into alcohol use.

The research indicates that the earlier and heavier the involvement with alcohol, the greater the likelihood of involvement with other problem behaviors. Research is needed to further characterize this syndrome of health-compromising behaviors and the psychosocial risk factors of these behaviors.

10. Prevention

The expanding base of knowledge about the biological and psychosocial aspects of alcoholism provides the basis for more productive prevention research. Prevention research is concerned not only with the disease of alcoholism but with the often tragic consequences of nonalcoholic patterns of drinking as well. Increased knowledge about the nature of these problems, the risk factors involved, and populations at special risk contribute to the feasibility of a strong prevention research focus.

A recent report of the National Academy of Sciences concluded that both educational approaches and laws and regulations can contribute to a reduction of alcohol problems if there is sustained public support for these approaches. Research to date suggests that, given the complexity of factors influencing drinking behavior and the wide range of drinking problems, the most promising prevention strategies are those that combine a variety of approaches targeted both to the individual and to the environment.

Research is needed to continue efforts to identify the precursors of problem drinking and to learn what methods are effective in preventing the onset of problem drinking. The growing concern throughout society about alcohol problems, particularly teenage drinking and driving, has led to a variety of educational programs as well as changes in law and policy. Research is needed to systematically evaluate the various elements of these programs to determine what interventions and changes in policy lead to actual behavior change. Such knowledge may make it possible to save many lives.

Research also needs to continue into the impact of changes in legislation and policies on drinking behavior. Research in this area focuses on the impact of changes in minimum drinking age, the impact of laws pertaining to drinking and driving, and laws and ordinances which modify the availability of alcoholic beverages.

B. Research Training

Support of research in all aspects of alcohol abuse and alcoholism and training of scientists for this research are the principal missions of the NIAAA. Personnel necessary to perform this work includes not only research-trained psychiatrists, psychologists, sociologists, and epidemiologists, but also pharmacologists, physiologists, neuroanatomists, enzymologists, and molecular biologists, to name just a few. The special nature of the wide-ranging problems associated with alcohol abuse and alcoholism demands that these scientists obtain further specialized training in alcohol-related research. This kind of training is available through federally-sponsored research training grant and fellowship programs administered by NIAAA.

C. Research Dissemination

To ensure that the results of research are put to wise use, the NIAAA has a major responsibility for research dissemination and knowledge transfer of alcohol-related information and scientific findings. This means not only disseminating research findings from researcher to researcher, but translating the findings into appropriate language for use by health care providers, program administrators, Federal, State and local policy-makers and educators so that they can better meet the needs of various publics, including those experiencing alcohol-related problems. NCALI which serves as a major dissemination channel of the Institute, gathers, analyzes, promotes, and disseminates information on alcohol abuse and alcoholism to scientists, policymakers, planners, practitioners, educators and the general public. In addition, knowledge transfer functions carried out by the Institute include the periodic review and assessment of research findings and how such findings are used, and the development of consensus on research issues in areas of priority. These functions are implemented through the ARUS which is designed to ensure timely assessment and application of research results.

In addition, the Institute cooperates with the ADAMHA-wide knowledge transfer process, including the cosponsorship during FY 1985 of the Knowledge Transfer Round Table, an assemblage of Federal and non-Federal experts in research dissemination issues, policies, and procedures.

D. Prevention Activities

The Institute carries out a broad spectrum of prevention activities designed to reduce the incidence and prevalence of alcohol problems. These activities include the following:

- public education campaigns designed to increase knowledge and stimulate prevention programs at the State and community level;
- evaluations designed to assist in improving prevention services and materials for specific target audiences, including those most at risk for developing alcohol problems;
- transfer of prevention research findings and evaluated prevention models through media and organizational outreach, conferences, and audiovisual and printed materials;
- provision of technical assistance designed to improve the quality of prevention programs, projects, and materials at the national, State, and community levels; and
- recommendation of prevention policies intended to reduce the high or problematic frequency and/or amount of alcohol consumption.

Prevention objectives are established in line with legislative mandates, resource allocations, the 1990 Health Objectives of the Nation, and priorities of the Agency, Institute, and a host of other organizations with which staff work closely.

During the next two years, NIAAA's prevention program will focus on reducing the incidence and prevalence of alcohol-related birth defects, injuries, accidents, and fatalities. Target audiences include youth and those who influence their behavior, women of childbearing age, minorities, and drivers.

E. Collaborative Activities

The NIAAA collaborates with other sectors of the Public Health Service, including the National Institute on Drug Abuse, National Institute of Mental Health, National Center for Health Statistics, Food and Drug Administration, Health Resource and Services Administration, National Institutes of Health, Centers for Disease Control, and Health Care Financing Administration, as well as with other Federal agencies such as the Department of Transportation, Department of Defense and National Transportation Safety Board.

The Institute also works with State and local governments, international organizations, and with voluntary, business and professional groups in order to maximize nationwide program efforts in the alcohol field. This collaboration serves to support activities especially in the areas of research dissemination, prevention and policy analysis. Further, such collaboration helps improve technical assistance to State, local, and voluntary organizations. Examples of international collaboration include the designation of NIAAA as a World Health Organization (WHO) Collaborating Center for Research and Training, work with Japan on measuring alcohol consumption patterns, and a joint U.S.-Spain agreement under which a number of mutually beneficial activities are taking place.

VII. SUMMARY

This Overview presents a brief description of the magnitude of alcohol abuse and alcoholism problems in our society, the NIAAA mission and organization, and the current activities and future direction of the Institute. An Overview's limitations are obvious. If you would like more information on any aspect of NIAAA programs and activities, feel free to contact the Institute or the National Clearinghouse for Alcohol Information.

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